

CEMP-RT

**DEPARTMENT OF THE ARMY  
U.S. Army Corps of Engineers  
Washington, DC 20314-1000**

EM 1110-35-1

Manual  
No. 1110 -35-1

30 June 1997

**Engineering and Design  
MANAGEMENT GUIDELINES FOR LOW-LEVEL  
RADIOACTIVE WASTE (LLRW) AND MIXED WASTE (MW)  
SITE REMEDIATION**

**1. Purpose.** This engineer manual (EM) contains planning and management guidelines to be used for the cleanup and environmental restoration of sites contaminated by radioactive waste containing low-Level radioactive waste (LLRW) either alone or combined with hazardous/toxic components to make mixed waste (MW). Specifically, the guidelines relate to remedial action concerning essentially uncontrolled LLRW or MW contamination arising from past practices at the sites. The primary purpose of this manual is to describe the regulatory and management responsibilities related to U.S. Army Corps of Engineers (USACE) activities at radioactive (LLRW and MW) waste sites. This manual is not intended to provide detailed technical recommendations or sophisticated scientific procedures. The manual will necessarily incorporate some technical information in order to provide background for the regulatory and management responsibilities. In addition to the USACE, Army and Department of Defense (DoD), these responsibilities are defined/enforced by other Federal agencies including the Nuclear Regulatory Commission (NRC), the Department of Energy (DOE), the Environmental Protection Agency (EPA), the Department of Transportation (DOT), and the Occupational Safety and Health Administration (OH-IA).

**2. Applicability.** The guidelines within this manual are applicable to all USACE elements and major subordinate commands (MSC) having responsibility through governmental interagency agreement or by assignment by HQUSACE for the remediation of sites contaminated by LLRW and MW. These guidelines are applicable to accomplishment of both the Military and Civil Works missions of the USACE. Strictly chemical or biological aspects of sites are not addressed except in passing reference to their component part of mixed waste. Involvement may arise, for example, as support to site owning agencies such as the DOE or as support to the EPA activities associated with non-government-owned site remediation. Such site remediation activities will fall within the purview of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Resource Conservation and Recovery Act (RCRA); the Hazardous and Solid Waste Amendments (to RCR4) (HSWA); or the Superfund Amendments and Reauthorization (of CERCLA) Act (SARA). In the event of military (Department of the Army, specifically) responsibility for MW and LLRW sites requiring remediation, this manual applies as directed by HQUSACE. Such involvement will fall under the Defense Environmental Restoration Program (DERP). Oversight responsibilities for managing the Department of Army Radioactive Material Waste Program have been assigned to Headquarters, U.S. Army Industrial Operations Command (IOC), Rock Island, Illinois. In such a role IOC is responsible for disposal of all Department of the Army-generated radioactive material at all currently licensed land burial sites in the

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United States, and for maintaining the required records for the Army on the type and quantity of disposed radioactive material.

FOR THE COMMANDER:

A handwritten signature in black ink, reading "Otis Williams". The signature is written in a cursive style with a large, stylized "O" and "W".

OTIS WILLIAMS  
Colonel, Corps of Engineers  
Chief of Staff